

ABSTRACT OF THE DISCLOSURE

A desired acoustic signal is extracted from a noisy environment by generating a signal representative of the desired signal with processor (30). Processor (30) receives aural signals from two sensors (22, 24) each at a different location. The two inputs to processor (30) are converted from analog to digital format and then submitted to a discrete Fourier transform process to generate discrete spectral signal representations. The spectral signals are delayed to provide a number of intermediate signals, each corresponding to a different spatial location relative to the two sensors. Locations of the noise source and the desired source, and the spectral content of the desired signal are determined from the intermediate signal corresponding to the noise source locations. Inverse transformation of the selected intermediate signal followed by digital to analog conversion provides an output signal representative of the desired signal with output device (90). Techniques to localize multiple acoustic sources are also disclosed. Further, a technique to enhance noise reduction from multiple sources based on two-sensor reception is described.